EVALUATING THE CAPACITY OF SCHOOL BUILDINGS IN CULPEPER, VIRGINIA

Staff Report

To

Board of Supervisors
Culpeper County, Virginia

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INTRODUCTION

Staff has compiled, reviewed, and analyzed data to assist the Board of Supervisors in evaluating requests by the Culpeper School Board for the largest capital expenditures in the history of the County. The School Board has recommended that the Board of Supervisors approve and fund the first phase of two phases of capital improvements to Culpeper schools developed by VMDO Architects, P.C. ("VMDO") as of July 21, 2003. [1] Phase I, to be completed within five years, includes a new high school ($43,875,000), renovation of the existing high school ($20,250,000), new elementary school ($11,996,000), and renovated elementary school ($6,545,000), totaling $82,666,000. [2] This total does not include the operational costs of the new schools.

The Board is presently considering whether to approve one of the current alternatives proposed by SHW Group, LLP ("SHW"), the architects engaged to design the new high school and the conceptual plan for renovation of the existing high school.

Since the primary issue is the present and future capacity of Culpeper's schools, this report focuses on issues relating to capacity.

INCREASED TAX RATES

If Phase I of the VMDO multi-phased school construction program were implemented (in addition to other planned capital projects), without considering

[1] VMDO, Facilities Study and Demographic Research, July 21, 2003 ("Facilities Study I").

[2] These numbers will change because of inflation and modification by other architects. It is reported that at its December 13, 2004 meeting, the School Board "approve[d] a $110.5 million capital improvement plan through fiscal 2011 – including a new high school, elementary school and middle school." "Culpeper Citizen" at 34 (December 16, 2004).

operational costs, the real estate tax rate could increase to 1.07 in 2006 and vary, roughly, between 1.00 and 1.08 through 2024. (See Attachment A). It is estimated that the current annual operational cost for a new 600 student elementary school would be approximately $3,300,000. The analogous cost for a new high school would be approximately $8,500,000. (See Attachment B).

When these operational figures are included, without increasing the assessed value of real property, the tax rate could increase to 1.39 in 2010 and vary between 1.43 (2011) and 1.54 (2025) over the years until 2031. If an assumption is made that the assessed real estate value increases 3% each year, [3] the tax rate might increase only to 1.32 in 2010 and vary between that figure and 1.20 until 2029. (See Attachment C).

A comparison with the 2004 real estate tax rates for counties in Virginia shows that the above tax rates would currently be, by a considerable amount, the highest of any Virginia county. (See Attachment D). The highest 2004 county tax rate is 1.13 in Fairfax County.

BUILDING CAPACITY

To most people, “capacity” is the maximum number of students which could be taught in a specific building. However, in the educational community, the term appears to be more flexible. It may refer to “operating capacity;” “working capacity;” fire capacity (occupancy limited by the fire code); statutory policy which imposes limits such as pupil / teacher ratio or class size; or, local “programs” or other policy based on educational

[3] This is a conservative Finance Department projection to estimate increased revenue. Although between the last two County assessments, the average annual increase was more than six percent per year, Staff estimates that, realistically, the average annual increase will be more than 3%, but less than 6%. Regardless of the actual percentage increase, the real estate tax rate will have to increase significantly.

goals and philosophy. Capacity may also include discretionary programs not required by federal or Virginia law. Therefore, when the bare term “capacity” is used, it should be defined so that all have a common understanding. Vacillations in “capacity” and estimates of capacity have not infrequently occurred in the educational planning in Culpeper County.

The importance of continuously evaluating school facility needs was emphasized in 1986 in a survey of Culpeper County Public Schools by a team of other school district superintendents under the auspices of the Virginia Department of Education. One of the recommendations to Tony M. Stewart, Superintendent, Culpeper County Public Schools, was:

> Continue to study the population projections and patterns of the County and continue to make short-and-long-range plans regarding the construction of school facilities. [4]

Changes in capacity due to policy and program changes were recognized by a Culpeper Community Task Force in December 1994:

> The High School is an interesting example, when built it had a design capacity of 1,300 students, in 1987 the program capacity was 1,250, today the program capacity is 1,100. This downsizing of school capacity is not unique to Culpeper County. [5]

Other causes of shrinking capacity were also identified:

[4] A Survey of School Building Needs (Dept. of Ed., Commonwealth of Virginia, April 30, 1986), at 2.

[5] Community Task Force For Facility Needs and Improvements to Existing Facilities, a View of Future Space Requirements, December 12, 1994, at 6.

> Among others, factors which have impacted the capacity of Culpeper County School facilities are changes in student teacher ratios from 24:1 to 20:1 in grades K-3, programs for diverse and unique student groups and introduction of additional age groups to existing facilities. [6]

The County held special elections on November 7, 1995 and November 3, 1998, by which Culpeper citizens authorized more than 22 million dollars in general obligation bonds to rebuild the Floyd T. Binns Elementary School as a Middle School and to renovate Culpeper High School to, in part, increase its student capacity.

In advising the Board of Supervisors about these capital improvements, Larry W. Brooks, Superintendent, made the following comments:

May 14, 1998

> When asked by a Supervisor "if the School Board had adopted a philosophy for a building plan according to student population, Mr. Brooks replied that K-5 school – approximately 600 students; Middle School – approximately 800 students and High School – 1,800 students." [7]

July 7, 1998

> "facilities needs of the secondary schools would cost in excess of $22 million dollars." [8]
>
> Mr. Brooks referred to "the addition of space at the present high school in order to add grade 9 to that facility." [9]

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[6] Id.

[7] Report to the Board of Supervisors from the minutes of the Buildings & Grounds Committee, May 14, 1998. When minutes of meetings are quoted, the text may not be an exact quote of the person speaking.

[8] Board of Supervisors minutes, July 7, 1998.

[9] Id.

> "Mr. Brooks said by reducing the student population at the middle school from 1,100 to 800 would carry the student population growth into the year 2010." [10]

August 4, 1998

> When asked by a Supervisor for "a 20-year projection of [school]…needs,… Mr. Brooks replied that… he would attempt to develop a 20-year projection…" [11]

April 6, 1999

> When asked by a Supervisor for a "time frame" for a second middle school, "Mr. Brooks replied that an elementary school would be needed about the year 2010 and either [a] new high school or a new middle [school] would be needed in 2014 and 2015." [12]

In the Education section of both the 2001-2005 and 2002-2006 Capital Improvements Programs ("CIP"), the School Division referred to the high school renovation and said:

> Upon completion, the current 1,100 student high school serving grades 10-12 will be an 1,800 student high school serving grades 9-12. [13]

On March 12, 2001, Dr. Brooks [14] told the School Board that if "one elementary school is…on line in 2007-2008, it will be a little bit ahead of the curve. The division will

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[10] Id.

[11] Board of Supervisors minutes, August 4, 1998.

[12] Board of Supervisors minutes, April 6, 1999.

[13] County of Culpeper Capital Improvements Program, Fiscal Year 2001-2005, at EDU-3 and County of Culpeper Capital Improvements Program, Fiscal Year 2002-2006, at EDU-3.

[14] Mr. Brooks became Dr. Brooks during his tenure as Superintendent.

need a secondary school by 2014-2015." [15] On May 14, 2001, a School Board member echoed that time frame. Referring to the School Board's long-term plan, she said "the plan doesn't project a need for an additional [high] school until the year 2015…." [16] On that same date, Dr. Brooks "noted that excess enrollment at the secondary level can be dealt with more easily through room usage than at the elementary level." [17]

Yet, on August 19, 2002, at the same time a new middle school (capacity 800) was being built and the high school was being expanded to supposedly an 1,800 capacity, one School Board member stated, "most schools [are] very close to being at capacity." [18]

In its September 11, 2003, presentation to the Board of Supervisors on school facility needs, among the points made were that the Middle School has a capacity of 1,350 students, the high school uses 17 classrooms in the Middle School, and that the 2002 high school renovation added 22 classrooms.

Without regard to the 1,800 student high school capacity, which apparently was never achieved, the total specified high school and middle school capacities are only now being approached. At the end of 2003-2004, high school (1,723) and middle school (755) student population totaled 2,478. As of October 31, 2004, this total was

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[15] School Board minutes, May 14, 2001.

[16] School Board minutes, March 12, 2001.

[17] Id.

[18] School Board / Board of Supervisors Interaction Committee minutes, August 19, 2002.

2,701. [19] Historically, this mid-year number drops by June graduation. [20] In addition, Staff is advised that currently the High School's total population figures include 45 students who attend only after-school sessions.

Middle School capacity (1,350) plus high school (1,525) capacity totals 2,875, or 174 vacant seats (not considering the 45 after-school students), as of October, 2004. This admittedly very rough comparison, at least, gives rise to the question of whether there is an immediate building space crisis, or a space crisis contributed to by policy or management.

In addition, the School Board in its April 6, 2004, presentation to the Board of Supervisors requested a "Building in the Middle" to add 24 additional classrooms. The present Standards of Quality pupil to teacher ratio average for high schools is 25:1.[21] Applying this average to 24 rooms, equates to a capacity for 600 more students. [22] In comparison, the School Division projected the need "for a total of 12 new classrooms over the next 3 school years". [23]

Following the opening of F. T. Binns Middle School and the transfer (at least figuratively) of the 9th grade to the High School, the student increase in the Middle

[19] School Board minutes, November 8, 2004 (attachment).

[20] Compare high school student populations of February 2004 (1788) (School Board minutes March 8, 2004, attachment) with June 2004 (1723) (School Board minutes of March 8, 2004, attachment), a reduction of 65 students.

[21] Va. Code § 22.1-253.13.1(H)(2).

[22] At the Board of Supervisors' meeting on December 7, 2004, Dr. Cox and Mr. Hunter Spencer, School Division Construction Project Manager, advised the Board of Supervisors that the addition of a culinary arts kitchen would reduce the capacity to 22 classrooms or 528 students.

[23] Culpeper County Public Schools, Interim High School Space Needs, April 6, 2004, Board of Supervisors Presentation, at 5.

School from the end of school year 2002-2003 (684) to end of school year 2003-2004 (755) was 71. The comparable increase at the high school was 35 for a total of 106, a total rate of increase consistent with the School Division's request in April 2004 for 12 classrooms over three years. Four classrooms per year can serve approximately 100 students per year.

Although not provided to the Board of Supervisors until October 5, 2004, VMDO's final report entitled "Facilities Study and Demographic Research" is dated January 30, 2004. This report noted the "debate about the appropriate size for a middle school." [24] VMDO's Executive Summary of the same date refers to "the theory that a middle school should only enroll 800 students…" [25] Clearly, this theoretical debate is not primarily about a building capacity limitation, but about a School Division policy limitation.

At the end of school year 2003-2004, according to School Division data, there was a total of 2,478 students (a total which continues to grow) in a Middle School / High School total capacity of 2,875, not including the potential 600 capacity of the "Building in the Middle". This data does not necessarily reflect a present crisis in the existence of building space. It may reflect, as well, a crisis in the use of building space.

The "Building in the Middle" can reduce any potential student population crunch at the Middle School / High School level. [26] But it may limit future reconfiguration of the Middle School / High School complex. Another alternative, currently rejected by the School Board, is trailers, which can provide classrooms at an approximate cost of

[24] VMDO, Facilities Study and Demographic Research, January 30, 2004 ("Facilities Study II"), at 65.

[25] VMDO, Executive Summary, January 30, 2004 ("VMDO, Executive Summary"), at 11.

[26] On December 7, 2004, the Board of Supervisors appropriated $2.3 million dollars for construction of the "Building in the Middle".

$50,000 each. Trailers are regularly used by school divisions throughout the Commonwealth because they are relatively inexpensive, provide flexibility, and allow additional planning time for major capital expenditures. In fact, the Fairfax County School Division, with more than 166 thousand students, has more students in trailers than Culpeper County has total students.

In view of this history, and the available facts, it is not clear that a new high school is needed now, rather than in 2007, or 2008. It may be preferred; but, there is no compelling evidence that it is needed immediately.

Before the Board of Supervisors recommends to the citizens of Culpeper the largest capital expenditures (by almost a factor of four) and the highest real estate taxes in the history of the County, the Supervisors should work with the School Board to define "capacity" in a way understandable and acceptable to the public. The citizens of Culpeper should not be urged to unknowingly fund shifting school policy limitations in the guise of deficient building space capacity.

FACTORS AFFECTING BUILDING CAPACITY

PROGRAM CAPACITY

At the December 7, 2004, Board of Supervisors meeting, Dr. Cox made clear that it is "program capacity" which is sorely deficient in the high school. By the term program capacity, Dr. Cox is not referring to the general classroom space necessary for instruction in English, math, history, and similar "core" courses. He is referring to the need for a specific-use space, such as for art, shop, ROTC, or a resource center for teacher training, which may require specialized equipment, or a space used for career / technical classes which, for safety reasons, may require limited class size. He also

noted that special education classes have a reduced limit on the number of pupils that can attend each class. According to Dr. Cox, 70% of students take career / technical classes. Dr. Cox also expressed a need for expanded cafeteria and gymnasium facilities.

That “program” capacity is the driving force in the space crunch was made clear by Dr. Cox. He said “programming informs capacity” and “programs define capacity”. “We advocate resources such as program space.” In addition, he noted that the high school is “short program classroom space” and is presently at “150% of program capacity”. The “need for program space always exceeds space we have”.

But, the total capacity limit is a potential problem only if all students are in classes all the time, or at least at the same time. This probably does not happen.

For example, at the Board of Supervisors meeting on December 7, 2004, Dr. Cox advised that the high school schedule is organized into four 1.5 hour blocks. Obviously, all teachers and all students are not in class all of the time. Some are absent every day because of illnesses or similar reasons. Staff is advised that each teacher gets at least one block a day for planning and administrative functions. Dr. Cox said that there were four lunch periods a day. Assuming each period is a half hour, this means that for a total of two hours a day, 25% of the students may be at lunch and not in class. Similarly, Dr. Cox indicated that more than 200 students take gym at the same time in the gymnasium. That group is not dispersed in classrooms at that time. There are approximately 45 alternative education students who attend class after regular school hours. In addition, there are an unknown number of students who are allowed to leave school early to participate in a work program.

For these reasons, the exact number of students in the available high school class rooms at any particular time, and the relationship of that number to building "capacity", is unknown to the Board of Supervisors. This fact makes it extremely difficult for the Board of Supervisors to properly access School Division funding requirements.

SCHOOL SIZE

An issue which has been repeatedly raised is whether the School Division should build a new, larger high school, or create a larger high school by combining the Middle School and the existing High School. A larger high school has been uniformly objected to by the School Division.

One School Board member said:

> [S]tudents in large schools have lower grade point averages and standardized test scores; students drop out of large schools at significantly greater rates than they do out of small schools. The consequences of large schools are higher crime rates, increased cost of incarcerations, more violence in schools, more families receiving public assistance and more students whose talents are not fully realized. [27]

While there are large schools in which one or more of these bases for criticism exist, the large size of a school does not of itself mandate such consequences. For example, the School Divisions of Fairfax (166,275 students), Prince William (65,721 students) and Loudoun Counties (44,011 students) (collectively the "other counties") all

[27] Joint School Board / Board of Supervisors meeting, September 11, 2003.

have high schools larger than those existing or contemplated by the Culpeper School Board. [28]

A non-comprehensive list of indicators of student achievement in high school would include standardized test scores, graduation rate, drop-out rate, the percentage of students who continue formal or technical education, and the percentage of graduates who obtain college or post-graduate degrees. By all of these indicators, the big-school, other counties have achieved as much or more academic success than the Culpeper County School Division.

Consider two of the criticisms of the School Board member above: (a) lower standardized test scores and (b) higher drop-out rate.

(A) STANDARDIZED TEST SCORES

Comparison of recent Scholastic Assessment Test ("SAT") scores shows:

Combined Verbal/Math SAT Scores for 2004 by Race [29]

	Total	White	Black	Hispanic
United States	1,026	1,059	857	916
Virginia	1,024	1,058	854	970
Fairfax	1,105	1,239	922	983
Loudoun	1,059			
Prince William	1,017			
Culpeper	981 [30]			

In academic circles, it is not infrequently pointed out that those school divisions with high SAT's frequently also have higher "Per-Pupil Expenditures". In this case, each

[28] Fairfax (up to 3,030 students); Loudoun (up to 1,848 students); Prince William (up to 2,500 students). Generally, current school division data was obtained from the school division website or by telephone call. When current data was unavailable, the most recent data found was used in Tables in this Section.

[29] Information left blank in this table was not available from the school division, State, or national agency websites.

[30] According to a "Culpeper Citizen" article on September 16, 2004, this is a five-year low.

of the other counties does have a higher Per-Pupil Expenditure. But, in Staff's opinion, except for those few school divisions with either unlimited funding or minimal funding, there is, generally, no necessary correlation.

The term "Per-Pupil Expenditure" tells you nothing except, on average, how many total local, state, and federal tax dollars per pupil were spent by a particular school board. It does not tell you on what the money was spent or whether the money was spent wisely, effectively, or efficiently. The focus on Per-Pupil Expenditure implies that it is a measure of educational achievement. This is not necessarily so.

That the amount of funding is not always the critical factor for academic achievement has been made clear at the international, state, and local levels.

> The United States boasts the world's highest per capita income and one of the best-funded school systems, yet our children fall below international norms in graduation rates and test performances. [31]

Historically, colleges have considered SAT scores as one measure of academic aptitude. Data in 2000-2001 [32] demonstrate there is no necessary correlation between Per-Pupil-Expenditure and SAT scores:

[31] F. Hess, Common Sense School Reform (Palgrave Macmillan, 2004) ("Common Sense"), at 1.

[32] National Center for Education Statistics, Elementary and Secondary Achievement, Table 137 – Scholastic Assessment Test score averages, by state: 1987-88 to 2000-01. Clearly, there are a variety of factors at work here. The point made here is that the mere spending of money does not guarantee and is not always necessary for positive results.

State (including Washington, D.C.)	Per-Pupil Expenditure (Rank / Amount)	SAT Score
Washington, D.C.	1st / $13,525	956
New York	2nd / $11,089	1000
New Jersey	4th / $10,892	1012
North Dakota	50th / $4,459	1183
Utah	49th / $4,755	1145
South Dakota	42nd / $6,102	1159
Virginia	39th / $6,465	1011

A local example is the rapidly increasing Culpeper School Division budget over the last five years in comparison with Culpeper's 2004 total SAT scores of 981, the lowest in five years. [33]

(B) DROP-OUT RATE

The only reported data found since 2000 in which Culpeper County was among Virginia county leaders was drop-out rate. In 2001-2002, Culpeper had the third highest Virginia drop-out rate of all counties.

Percentage Drop-Out Rate

	(2001-2002) [34]	(2002-2003) [35]
Virginia	2.02%	2.17%
Loudoun	.68%	2.44%
Fairfax	1.90%	2.41%
Prince William	2.86%	2.07%
Culpeper	4.05%	3.68%

[33] Staff agrees that there are many factors, not considered in this report, that may have contributed to this result.

[34] Dropout Information, Virginia Department of Education, Superintendent's Annual Report, 2001-2002.

[35] Dropout Information, Virginia Department of Education, Superintendent's Annual Report, 2002-2003, Table 6.

This problem was confirmed on February 12, 2001, by Dr. Brooks, who stated:

> [O]ur current graduation rate is running at 76 percent for students entering ninth grade, which means 24 percent do not graduate, which is not an acceptable loss rate. [36]

However, as shown above, the Culpeper drop-out rate appears to be decreasing.

As further evidence that all large high schools do not appear to be detrimental to their students, at least as compared to Culpeper students, consider the following high school and post-high school data:

C. GRADUATION RATE [37]

Virginia	79.2%
Fairfax	96.5%
Loudoun	94.6%
Prince William	75.9%
Culpeper	92.5%

D. POST-HIGH SCHOOL EDUCATIONAL PLANS [38]

Virginia	75.7%
Fairfax	88.9%
Loudoun	83.6%
Prince William	78.1%
Culpeper	69.8%

[36] School Board minutes, February 12, 2001.

[37] Graduate Information, Virginia Department of Education, Superintendent's Annual Report, 2002-2003, Table 5.

[38] Id.

E. BACHELOR'S OR ADVANCED DEGREE [39]

Virginia	29.5%
Fairfax	54.8%
Loudoun	47.2%
Prince William	31.5%
Culpeper	15.7%

As the foregoing data indicate, the other counties appear to be able to cope reasonably well having some high schools larger than those existing or contemplated in Culpeper.

Not only are the foregoing indicators of academic achievement frequently more positive in the other counties, but the other counties have accomplished those positive results while carrying burdens reduced in magnitude in Culpeper County.

> Big-city students also cost more to educate because a higher proportion are classified as Limited English Proficient or as in need of "special education". [40]

(1) SPECIAL EDUCATION

> [T]he standard estimate is that special education costs 2.3 times as much as regular education. [41]

Two factors tend to increase the cost of special education in urban jurisdictions with larger populations. First, larger populations, with higher percentages of minorities in school, tend to have more need of special education services. Second, the larger the

[39] Weldon Cooper Center, Table DP-2A. Profile of Selected Social Characteristics, 2000: School Enrollment & Educational Attainment.

[40] A. Thernstrom & S. Thernstrom, No Excuses; Closing the Racial Gap in Learning (Simon & Shuster, 2003) ("No Excuses"), at 155.

[41] Id. at 298 n. 9.

school population, the more likely it is that the larger population will contain one or more students requiring special education services of extraordinary cost, sometimes in the hundreds of thousands of dollars for one student.

A comparison of reported special education costs in 2001-2002: [42]

County	Expenditure
Fairfax	$256,028,864
Loudoun	$ 40,564,712
Prince William	$ 46,260,121
Culpeper	$ 4,464,691

(2) ENGLISH AS A SECOND LANGUAGE

There is no doubt that students from other cultures in which a language other than English is spoken may have a more difficult time succeeding in Virginia schools until that language gap is bridged. According to Virginia school data, the largest English as a Second Language ("ESL") group is Hispanic. In 2004, the Hispanic population of Virginia public schools was 6.2%. [43]

But, Hispanics as a group are not spread equally throughout Virginia. They tend to concentrate in urban areas, particularly Northern Virginia, closer to Washington, D.C. Culpeper has a much smaller ESL burden than the other counties.

[42] Table from Virginia Department of Education – Schedule A, Superintendent's Annual Report, and CSA reimbursement claims (revised August 5, 2002).

[43] National Center for Educational Statistics, Student, School / District Characteristics for Public Schools, updated April 12, 2004.

County	Number of Hispanic Students	Percentage of Hispanic Students [44]
Fairfax	24,798	15.1%
Loudoun	4,022	9.6%
Prince William	11,149	17.6%
Culpeper	256	4.1%

Obviously, the cost and administrative burden of ESL students in Culpeper is a smaller percentage of the school budget than in the other counties. The burden is probably even less in high school when as recently as 2002-2003, the Culpeper High School was reported as having 23 Hispanic students, 1.9% of the student population. The small number of Culpeper ESL students was confirmed at the February 11, 2002 School Board meeting: "ESOL: This program employs 2.4 teachers who work with 96 students." [45] In 2002, Fairfax reported an ESL staff of 601Full-Time Positions. Other factors which adversely impact some or all of the other counties more than those factors impact Culpeper, include:

3. Projected Student Population Growth Rate [46]

(2004-2005) to (2008-2009)

Fairfax	2.4%
Loudoun	29%
Prince William	18%
Culpeper	7.8%

[44] Virginia Department of Education, September 30, 2003, Student Membership (3/15/04).

[45] School Board minutes, February 11, 2002.

[46] Weldon Cooper Center, Historic & Projected Fall Membership for Virginia & School Divisions, April 26, 2004.

4. Demographics

As shown above, generally, the larger the minority student population, the lower the overall average SAT scores. See above table of SAT scores.

Applicable Virginia demographics in 2003 [47] were:

	White	Black	Hispanic
Virginia Schools	60.4%	26.8%	6.5%
Fairfax Schools	52.8%	10.7%	15.1%
Loudoun Schools	72.2%	8.4%	9.9%
Prince William Schools	47.4%	23.1%	17.6%
Culpeper Schools	75.4%	19.7%	4.1%

From this data, one might surmise that Culpeper High School students should have among the highest average SAT's. In fact, Culpeper has the lowest SAT's. Of particular note is the fact that Fairfax County Hispanic students have a higher average SAT than the student body at Culpeper High School. See SAT Table above.

By the foregoing, Staff does not indicate its support for or disapproval of a larger high school. The Staff also appreciates that a larger high school may impose different and additional leadership, management, and administrative burdens on school staff. However, Staff also believes that a larger school should not be rejected in the belief that large schools are necessarily adverse to academic achievement. [48]

STUDENT POPULATION GROWTH

There is no question that the school population of Culpeper County has been growing more rapidly in recent years. However, the important issue for effective capital

[47] Division Summaries by Ethnicity, Virginia Department of Education, September 30, 2003.

[48] The foregoing comparison of school divisions should not, in any way, detract from Culpeper High School's recent designation as "Outstanding" by the Southern Association of Colleges and Schools ("SACS"). Culpeper Star-Exponent, December 4, 2004, at A1. Staff does not have reason to believe that SACS focused on the same issues, in the same context, as are addressed in this Report.

planning for school construction and renovation is not overall student population growth, but comparative growth among elementary, middle school, and high school populations. As Dr. Colin Owens stated at the School Board meeting on October 21, 2002: "Everyone agrees that there is a need for more schools, but the questions are what, when, and how much." [49]

In a report dated July 21, 2003, VMDO, without detailed explanation, utilized a .72 student-to-[residential] unit ratio coupled with 2-year mean averaging, to project student population growth in the County. [50] VMDO acknowledged that the Weldon Cooper Center's data produced considerably lower projections. [51] Despite repeated requests by County Supervisors and staff for a detailed explanation of the .72 VMDO figure, none was provided until October 5, 2004, when the County was provided VMDO's final report, dated January 30, 2004. In fact, SHW Group, LLP ("SHW"), the architects selected prior to April, 2004, to design the new high school and to conceptually design the renovation of the old high school, were never provided any VMDO reports, until they were provided by County staff.

The School Division embraced the .72 growth factor. As one School Board member said on September 11, 2003:

> Using the most conservative student-to-unit ratio of .72 we will exceed high school and elementary capacity in 2006. [52]

[49] School Board minutes, October 21, 2002.

[50] VMDO, Facilities Study I.

[51] Id. at 4.

[52] Joint School Board / Board of Supervisors meeting, September 11, 2003.

VMDO acknowledged that "predicting enrollments is not an exact science," and that "it is virtually impossible to predict for certain the exact number of students expected to enroll in any given year". [53]

In its January 30, 2004, Report, VMDO explains its ratio:

> In sum, given that surrounding communities already feeling the impact of the greater Washington, DC metropolitan-area growth have much higher ratios than Culpeper's community-wide ratio and given that the weighted average of the ratios of subdivisions currently under construction within Culpeper itself is artificially low, a ratio of .72 was chosen to predict the number of public school enrollees that will come out of new homes in Culpeper in the future. That number is consistent with Culpeper's neighbor, Fauquier County….and with several of the active subdivisions already under development in the county…. [54]

As is evident, this is little more than a guess, an educated guess, but nonetheless, a guess.

Staff believes that lower ratios are more consistent with actual and potential growth patterns. VMDO concedes "the community-wide ratio of .48", and that the weighted average of Culpeper subdivisions under development is .57. [55]

[53] VMDO, Facilities Study II, at 7.

[54] Id., at 15.

[55] Id., at 14.

Weldon Cooper's ratio is in this range and the Staff's developed ratio range is .22 to .39, using a modified student-to-unit ratio. (See Attachment E for methodology). [56]

Other similarly developed systems are consistent with lower ratios.

Although VMDO's methodology is consistent in the short term for high school population growth, Staff believes that VMDO's much higher overall student population growth in the out-years which results from VMDO's methodology is excessive due to VMDO's very high ratio.

VMDO acknowledges the benefits of the student-to-unit ratio of the kind used by the Staff:

> The Student-to-Unit Development Ratio (DR) Method of analyzing current and future land development is a fairly reliable predictor of long-term enrollment and has the ability to self-correct as more and more information becomes available over time. With regard to short-term enrollment projections, however, it tends to under-predict because by definition it cannot account for young children up to five years of age who are not yet enrolled in a school. Regardless, these unrecorded children will appear on classroom rosters within the next five years. [57]

In the short term, which is the time-frame of the present "crisis", preschoolers will not impact middle and high school populations. Therefore, Staff believes that VMDO's

[56] More specificity than a range will result when mandatory and discretionary "students" can be distinguished in the School Division's total population count. For example, at the January 11, 2005 Building and Grounds Committee meeting on the topic of the County's Early Childhood [Preschool] Programs, Assistant Superintendent Dr. Eric M. Conti, advised the Committee that less than half of the 85 preschool children in the program were mandated by federal or Virginia law. Staff believes that no matter how desirable or beneficial a program is, the starting point for determining School Division capacity should be the number of students the School Division is required by law to teach.

[57] VMDO, January 30, 2004, at 8.

caution can be ignored in the short term, for at least as long as it would take preschoolers to reach middle school. In any event, if the data is updated annually, it should self-correct.

Without updating and analyzing relevant data on an annual basis, it is difficult to accurately project school population trends. One way to compensate for the varying data is to build expandable schools.

Such an example is Powhatan County Public Schools. Estimating an enrollment growth trend of 5.5%, [58] all schools were recommended to be expandable: new high school (1,250 to 1,750 students) (60% to 100%); new middle school (750 to 900 students) (80% to 100%); new middle school (900 to 1,200 students) (75% to 100%); renovate existing high school to middle school (900 to 1,200 students) (75% to 100%); and new elementary school (600 to 900 students) (66.7% to 100%). [59]

Powhatan's approach is not unlike Concepts B and C of SHW's initial recommendations. [60] Such an approach minimizes potential overbuilds while spreading the greater cost over more years, thus reducing average real estate tax bills.

The Staff recommends an approach which employs the lower, Staff developed ratio and methodology and strives to preserve core academic programs, while minimizing overbuilds and reducing average tax burdens.

[58] Powhatan Schools Facilities Master Plan (1998-2020).

[59] Powhatan County Public Schools, 1999 School Bond Issue, Bond Referendum Facts.

[60] SHW, Culpeper County Public Schools: Community Coming Together, September 29, 2004.

As one School Board member stated on April 24, 2002:

> [T]he Board's first priority is the academic achievement of students. She said outside of the core academic classes, other programs and activities enhance education, but until a student is proficient in the core subjects, she asked if the [School] Board had done its job. [61]

CLASS SIZE

The impact of class size is controversial, but clearly affects building capacity.

> The smaller the average class, the more teachers a school needs, and the harder it may be to maintain teacher quality. To cut class size by a third, the number of teachers (and thus the number of classrooms) has to go up by 50 percent. [62]

The traditional view of the importance of reduced class size was expressed by Dr. Cox:

> [R]esearch shows that lower class sizes have its most profound effect on K-3, and the greater the number of risk factors associated with socio-economics, the more positive effect that class size has. [63]

This view, combined with the facts that there have been as many as 34 roaming teachers in the high school [64] and that "[f]aculty and staff…desire that all teachers be provided a classroom," [65] make evident the impact of those desires on building size. In

[61] School Board minutes, April 24, 2002.

[62] No Excuses, at 160.

[63] School Board / Board of Supervisors Interaction Committee, September 16, 2002.

[64] Dr. Cox statement at Board of Supervisors' meeting on December 7, 2004. "Roaming teachers" are teachers without designated classrooms or work spaces.

[65] VMDO, January 30, 2004, at 46.

addition, the teacher growth rate (28.1%) [66] appears to have doubled the rate of student growth (14.8%) during the period 2000 to 2004. [67]

In contrast to the view that small class size is always good, is the view, recently expressed that:

> Teachers, of course, have long favored smaller classes. They genuinely believe students are better off with more individual attention – a conviction that seems common sense, particularly in classrooms in which learning is "cooperative", organized in small groups. Decades of research, however, have failed to establish that smaller classes have any measurable impact on student achievement. If this seems counterintuitive, it is not. If districts have to hire a great many teachers in order to reduce average class size, they are forced to be less selective in picking those teachers, with a decline in quality as a consequence. The key question, therefore, is teacher quality, not class size. [68]

Similarly:

> It's not that class size is unimportant, it's just that the benefits of class size tend to be outweighed by the need to find ever more teachers, the dilution of teacher quality, the required sacrifices in other areas, and tend to vary significantly with the students, the teacher, and the subject taught. [69]

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[66] The opening of the F. T. Binns Middle School may inflate this figure slightly, but most of the students transferred to this new school were being taught by teachers somewhere in the School Division.

[67] Compare data in School Operating Budget Report, 2001 Fiscal Year, with School Employee data provided August 20, 2004.

[68] No Excuses, at 159.

[69] Common Sense, at 181.

While staff is not convinced that class size makes no difference in the elementary grades, it seems plausible that class size may have significantly less impact on high school students who, if they continue their education, will probably find themselves in larger classes than they have previously experienced. Regardless of one's view on the merits of small class size, it is undeniable that local policies promoting smaller class sizes, more teachers, and a classroom for every teacher can only inflate building size and cost.

While the merits of small class size on academic achievement is a question better left to education experts, the necessity of each high school teacher having a dedicated classroom does not seem evident. One can imagine the emotional and intellectual benefit to a kindergarten student of seeing, every day, the same teacher, in the same room. The same benefits are not as clear for a high school senior. That student probably rotates classes and teachers on a regular basis. When that student goes into the job force, as an employee, he or she may not work in the same place every day. If that student goes to college, the student may attend classes containing hundreds of other students, and with a variety of teachers, but almost never in the teacher's classroom. A teacher having a "proprietary" interest in a specific classroom appears to be more of a teacher benefit and convenience than an academic necessity for high school and middle school students.

In any event, Staff believes that these are examples of School Division policies which potentially add to the size and cost of new and renovated school buildings.

PUPIL / TEACHER RATIO

On its face, this is an easy concept: divide the number of pupils by the number of teachers. With certain specified conditions or limitations, the present Virginia Standards of Quality limits for pupil / teacher ratios are as follows: Grades K-3 and grades 6 to 10 (English classes) 24 to 1; grades 4-6 and middle schools / high schools, 25 to 1. [70]

But, these ratios vary greatly, depending upon context. In 2000, the school administration reported the High School: "Pupil / Teacher in regular education = **. . .** 17.50 to 1" and "True Pupil Teacher Ratio . . . = 14.41". [71] For 2001-2002, the Virginia Department of Education reported for Culpeper that for Grades 8-12, the pupil / teacher ratio was 11.3. [72] On January 7, 2002, "Dr. Cox said….[t]he school division will aspire to a 25:1 student / teacher ratio at the secondary level and 20:1 in elementary…." [73]

In 2002-2003, the National Center for Educational Statistics reported the Culpeper High School Student / Teacher ratio to be 17. Compare with Loudoun County's ratio of 18.6, Prince William County (21), and Fairfax County (28.5).

[70] Va. Code § 22.1-253.13.1(H).

[71] School Operating Budget Report, 2001 Fiscal Year, Culpeper County Public Schools.

[72] Virginia Department of Education, 2001-2002 Superintendent's Annual Report.

[73] School Board minutes, January 7, 2002. These desired ratios were reaffirmed in the "Proposed Budget for the 2005-06 School Year" ("Proposed Budget"), Presented by the Superintendent to the School Board, January 10, 2005 at 9.

For the same 2002-2003 period, the Virginia Department of Education reports: [74]

County	Pupil / Teacher Ratio K-7	Pupil / Teacher Radio 8-12
Fairfax	12.9	11.4
Loudoun	13.8	11.1
Prince William	15.9	15.2
Culpeper	13.4	10.2

The School Board monthly minutes for 2004 provide attachments listing student data for all schools, but pupil / teacher ratios only for the elementary schools. [75] The lack of data and consistency in reporting accurate and defined data hinders the ability of the public to evaluate this important factor. The desire for lower pupil / teacher ratios is another School Division policy which also impacts building size requirements. [76]

However, even consistent, complete data on pupil / teacher ratios does not tell the full and accurate story.

> In fact, pupil-teacher ratios are not precise measures of the number of students in the average class, because teachers normally do not teach every hour. The average class is thus somewhat larger than these figures suggest. [One study]…has shown that the dramatic drop in the pupil-teacher ratio in recent decades has not produced an equally sharp drop in average class size. [77]

[74] Pupil to Teacher Ratios, Virginia Department of Education, Superintendent's Annual Report, 2002-2003, Table 2.

[75] See e.g., School Board minutes, January 2, 2004 to November 8, 2004 (attachments).

[76] It should be noted that in the Proposed Budget for 2005-06, there is a projected increase of 260 students; but, 25 new teacher positions are requested at a cost of $1,447,750.

[77] No Excuses, at 299 n. 17.

This factor needs to be better defined for public understanding and financial planning.

PARITY

An issue which has been raised in various sectors of the community is parity between a new high school and the renovated high school. The Staff understands this concern to encompass substantial identity of facilities and programs. It appears to the Staff that the School Division, parents, and probably the students, find parity to be a desirable goal.

It is Staff's view that the primary benefits of parity are emotional and play a very limited role, if any, in enhancing educational excellence. However, the renovating of old schools to achieve parity with new schools will necessarily inflate construction and operational costs.

This does not mean that old schools should not be renovated. It means, in the opinion of Staff, that in order to justify the costs incurred, the primary goal of renovation should be to contribute to academic achievement, not to achieve some general "feel good" atmosphere.

That parity is not necessary for enhanced academic achievement is made clear by high schools in the other counties. Some are old; some are new. Some are larger; some are smaller. Demographics vary.

However, one example of where parity can be of economic benefit is shown by Loudoun County. Because of the rapid growth there, eight high schools have been, and are being, built within ten years. Designed by SHW, all of these high schools are based on a substantially identical floor plan for 1,500 students. The economic efficiencies of

using the same design are evident and many. However, the goal in Loudoun was primarily economic, not emotional.

When parity becomes an issue in the design of Culpeper schools, the question should be asked, "What is the reason for parity in these particular circumstances?". As Assistant Superintendent, Dr. Eric M. Conti recently said:

> "You can put a good teacher in an old building or a new building or a tent,"…, "and their students are still going to learn. " [78]

MORE MONEY IS NOT THE ONLY ANSWER

The School Board requests that the Board of Supervisors approve the financing of more than $84 million dollars in capital projects over the next five years. When the new high school and the new elementary school are open, an additional annual fiscal burden of approximately $12,000,000 a year in new operating costs will be necessary, without considering annual inflation. The School Board also requests an additional $2.3 million dollars for a "Building-in-the-Middle". [79] What is the financial context in which these requests are made?

Since fiscal year ("FY") 1994, the School Division has received an average 83.7% of real estate taxes collected by the County. During the period of FY 1994 through FY 2004, that local share increased from $13,030,250 to $24,856.573, a total increase of 90.76%, or an average increase of 8.25% a year. [80]

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[78] "Culpeper News", November 25, 2004 at A5.

[79] This appropriation was made by the Board of Supervisors at its meeting on December 7, 2004.

[80] In its Proposed Budget for 2005-06, the Superintendent requests an increase in the local share of the operational budget of $4,361,946 or 19.9%. This includes an average 5.4% increase in teachers' compensation scale.

A review of School Division "sinking fund" and Capital Improvement Program fund balances during the 1990's does not make evident, except for bond funds deposited to build or renovate schools, a regular, annual deposit into these funds as a savings account for new construction or substantial building renovations. [81] In fiscal year 2001, the Board of Supervisors elected to put all general funds remaining at the end of each fiscal year into the School CIP. Also, at that time, the Board of Supervisors began an aggressive savings program by initially designating $2 million dollars from the general fund and an additional 25% of all new growth for future school building needs of the County. Today, the saved figure totals $4 million dollars.

For more than a decade, the School Division has been the largest funded agency in the County, and consistently received the largest annual increases of any County agency, virtually none of which was directed to any savings for future school construction until the Board of Supervisors acted in FY 2001. [82] The School Board now asks for more than $84 million dollars in construction funds in the next five years.

These ever-increasing requests for funding appear to be common among Virginia School Divisions, which do not have the power to tax as do school districts in many other states. Such an attitude fosters a lack of accountability. As has been noted, generally:

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[81] This practice is generally consistent with the practice of other school divisions. However, Staff is advised of a notable approach used by the Prince William County School Division which buys land for future school sites out of its operating fund budget. In addition, during six consecutive years of that period, the Culpeper County tax rate remained at .74.

[82] Compare "the nation's thousands of urban Catholic schools, which have enjoyed remarkable success…while routinely spending no more than half as much per pupil as the local public schools". Common Sense, at 21.

> Quite simply, the problem is not one of insufficient money. The problem is one of insufficient accountability, flexibility, and good management. The problem is our failure to foster a culture of competence in our schools.[83]

All other public and private agencies must identify and live within budget constraints. Schools should not be exempt.

> We all live on budgets and within limits. In fact, it is the pressure of finding ways to excel with limited resources that produces useful innovation. When times are tough, public and private organizations tighten their belts, lay off employees, and ask for pay concessions. Yet, public educators seem downright offended by static funding. [84]

The need for construction or renovation of school buildings exists and will continue. Such costs are escalating far more rapidly than County revenues, and will continue to do so for the foreseeable future. The historic view of School Divisions that operational costs and capital costs are separate and independent, must end. Both sets of costs come from the taxpayers' pocket. The Board of Supervisors and the School Board must work together to deliver the best educational product at a cost acceptable to the citizens of Culpeper.

CONCLUSIONS AND RECOMMENDATIONS

As is evident, school building capacity involves more considerations than mere bricks and mortar. Staff is unable to confirm, based on available information, whether or not there is an immediate crisis in high school space capacity. The School Division

[83] Common Sense, at 28.

[84] Id., at 27.

asserts that the Board of Supervisors and the citizens of Culpeper should accept the School Division's recommendations, primarily due to their expertise. Acknowledging their expertise, Staff believes that one of the functions of an expert is to be able to explain their expert opinion in a supported, understandable, and persuasive manner to the non-experts who must fund the consequences of that opinion.

> When someone tells you to trust them rather than your common sense, you are almost always well-served by taking a long, hard look. Even if you are not an expert, or, especially if you're not, you should look askance at those experts who would have you believe that simple truths don't hold in their domain. [85]

Staff believes the School Division has not yet carried this burden, especially in view of the amount of capital funding requested, and potential attendant operational costs.

This does not mean that there is not a high school building capacity crisis or that one might not occur in the near future, if appropriate action is not taken by the Board of Supervisors and the School Board. Any such action should be considered, deliberate, and, given the anticipated costs, based on the best information available. Such action may include the Building-in-the-Middle, trailers, or making more efficient use of existing space. Such temporary measures would enable the School Board and the Board of Supervisors to evaluate, and to create systems for evaluating, the actual "capacity" of all of Culpeper's existing school buildings and for estimating future capacity requirements at all school levels.

[85] Common Sense, at 217.

In order to facilitate the proper transfer of school operational information to the public and the Board of Supervisors, Staff recommends:

1. The School Board and Board of Supervisors continue in their deliberative and evaluative process to insure the citizens of Culpeper that any requested substantial increase in taxes be justified to the satisfaction of the School Board, the Board of Supervisors, and the public;

2. The School Board submit to the County any and all reports (including for the past five years) which have been submitted to federal, Commonwealth, or private agencies, unless such disclosure to the County is precluded by law;

3. The School Board submit its annual budget request in the standard format required of all other County agencies in order to promote better understanding by the County;

4. A person or staff be designated by the School Board or, jointly by the Board of Supervisors, to compile, and in a more complete fashion, to make available to both Boards the data necessary for making such important decisions;

5. The School Board provide to the Board of Supervisors a complete, monthly, set of budget, operational, and capital data to enable the Board of Supervisors to better coordinate with the School Board in anticipating School Division operational and capital funding needs; and,

6. The School Board and Board of Supervisors consider, as is presently being done by the Department of Human Services, consolidating various common, operational functions which will improve efficiency, economy, and communications.

The Staff believes that should such steps be taken, the improved communications between the Boards will result in better anticipation of funding issues and minimize unanticipated “crises” in the future. The end result will be better service to the citizens and children of Culpeper.

CULPEPER COUNTY, VIRGINIA
INTEGRATED FINANCIAL PLANNING MODEL

INPUT WORKSHEET

Input Current Fiscal Year 2005

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Input Market Appreciation Rate of Existing Residential Real Estate		5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%
Input Market Appreciation Rate of Existing Commercial Real Estate		5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%
Input Market Appreciation Rate of Existing Industrial Real Estate		5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%
Input Market Appreciation Rate of Existing Office Real Estate		5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Other Real Property Taxes			5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Personal Property Taxes			5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Other Property Taxes			5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Fire/Rescue Taxes			5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Total Taxable Market Values	2,919,088,900	3,069,813,025	3,389,507,159	3,895,425,366	4,195,028,043	4,453,219,991	4,693,775,685	5,152,007,684	5,356,370,851	5,559,306,772	5,768,330,771	6,266,254,240
Input Market Value, Tax and Levy Information:	**Fiscal Year 2004**	**Fiscal Year 2005**	**Fiscal Year 2006**	**Fiscal Year 2007**	**Fiscal Year 2008**	**Fiscal Year 2009**	**Fiscal Year 2010**	**Fiscal Year 2011**	**Fiscal Year 2012**	**Fiscal Year 2013**	**Fiscal Year 2014**	**Fiscal Year 2015**
County General Fund Tax Rate (Calculated Tax Rate)	$ 0.81	$ 0.89	$ 1.07	$ 1.00	$ 0.99	$ 1.00	$ 1.05	$ 1.02	$ 1.04	$ 1.06	$ 1.08	$ 1.05
Property Tax Collection Rate	94.74%	94.74%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%
Projected General Fund Real Property Tax Revenue	20,432,830	22,929,156	31,199,213	34,194,518	36,716,360	39,439,704	44,043,039	47,002,411	49,966,647	53,061,977	56,311,598	59,398,185
Property Tax Options:	*Tax Rates Calculated*											
Option 1: Calculate Property Tax Rate Based on Model Inputs												
Projected General Fund Expenditures and Transfers Less School Transfer		28,901,638	31,285,122	33,419,421	35,358,801	37,418,795	40,397,920	42,632,675	44,902,099	47,266,845	49,739,197	52,171,431
Projected Revenues		48,814,081	58,096,314	62,145,942	65,766,107	69,627,713	75,429,275	79,630,964	83,889,820	88,334,398	92,990,322	97,542,758
School Transfer		(21,920,275)	(26,811,192)	(28,726,521)	(30,407,307)	(32,208,918)	(35,031,356)	(36,998,288)	(38,987,721)	(41,067,553)	(43,251,126)	(45,371,327)
Input Amount of Fund Balance to be used		(2,007,832)										
Revenues Less Expenditures		(0)	-	(0)	(0)	(0)	-	(0)	(0)	(0)	-	(0)
Net Property Value To Be Taxed		2,719,090,840	3,067,297,730	3,573,215,937	3,872,818,614	4,131,010,562	4,371,566,256	4,829,798,255	5,034,161,422	5,237,097,343	5,446,121,342	5,944,044,811
Option 2: Input Property Tax Rate to be Used		$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89
Amount of Fund Balance Used		(2,007,832)	-	0	0	0	-	0	0	0	(0)	0
Projected Beginning General Fund Balance		**22,149,413**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**
Projected Ending General Fund Balance		**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**	**20,141,581**

Attachment A

INPUT WORKSHEET

Input Current Fiscal Year: 2005

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Input Market Appreciation Rate of Existing Residential Real Estate	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%
Input Market Appreciation Rate of Existing Commercial Real Estate	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%
Input Market Appreciation Rate of Existing Industrial Real Estate	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%
Input Market Appreciation Rate of Existing Office Real Estate	20.00%	5.00%	5.00%	5.00%	20.00%	5.00%	5.00%	5.00%	20.00%
Input Assumptions for Growth of Other Real Property Taxes	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Personal Property Taxes	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Other Property Taxes	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Assumptions for Growth of Fire/Rescue Taxes	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Input Total Taxable Market Values	6,368,591,402	6,373,233,375	6,378,014,607	6,690,535,298	6,695,607,707	6,700,832,289	6,706,213,608	7,028,830,562	7,034,539,604
Input Market Value, Tax and Levy Information:	Fiscal Year 2016	Fiscal Year 2017	Fiscal Year 2018	Fiscal Year 2019	Fiscal Year 2020	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
County General Fund Tax Rate (Calculated Tax Rate)	$ 1.05	$ 1.06	$ 1.08	$ 1.05	$ 1.06	$ 1.08	$ 1.10	$ 1.06	$ 1.08
Property Tax Collection Rate	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%	95.50%
Projected General Fund Real Property Tax Revenue	60,513,535	61,524,789	62,546,231	63,577,159	64,768,799	65,820,862	66,879,993	67,945,182	69,015,323
Property Tax Options:									
Option 1: Calculate Property Tax Rate Based on Model Inputs									
Projected General Fund Expenditures and Transfers Less School Transfe	53,715,268	55,249,765	56,830,296	58,458,244	60,206,470	61,935,702	63,716,812	65,551,354	67,440,933
Projected Revenues	100,186,310	102,790,753	105,473,329	108,236,382	111,234,326	114,170,209	117,194,169	120,308,847	123,516,965
School Transfer	(46,471,042)	(47,540,988)	(48,643,032)	(49,778,138)	(51,027,857)	(52,234,507)	(53,477,357)	(54,757,493)	(56,076,032)
Input Amount of Fund Balance to be used									
Revenues Less Expenditures	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	-
Net Property Value To Be Taxed	6,046,381,973	6,051,023,946	6,055,805,178	6,368,325,869	6,373,398,278	6,378,622,860	6,384,004,179	6,706,621,133	6,712,330,175
Option 2: Input Property Tax Rate to be Used	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89	$ 0.89
Amount of Fund Balance Used	0	0	0	0	0	0	0	0	(0)
Projected Beginning General Fund Balance	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581
Projected Ending General Fund Balance	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581	20,141,581

EMERALD HILL ELEMENTARY

	#Employees	Salaries	FICA @7.65%	Health @410.23	VRS-Prof @12.6%	VRS-Non-Prof. @8.3%	
6110 Elem Teachers Reg	48	1,999,456.68	152,958.44	236,292.48	251,931.54		
6111 Spec. Ed.	5	203,013.00	15,530.49	24,613.80	25,579.64		
6112 Gifted & Talented	2	74,800.00	5,722.20	9,845.52	9,424.80		
6122 Elem Guidance	2	79,300.00	6,066.45	9,845.52	9,991.80		
6125 Spec Ed/Inst Asst	1	10,036.08	767.76	4,922.76		832.99	
6132 Elem Teachers Media	1	54,975.00	4,205.59	4,922.76	6,926.85		
6134 Elem Inst Asst(Sec aide)	13	172,266.04	13,178.35	63,995.88		14,298.08	
6140 Asst. Principal	2	103,407.00	7,910.64	9,845.52	13,029.28		
6141 Elem Principal	1	76,459.00	5,849.11	4,922.76	9,633.83		
6144 Elem Office	3	75,821.48	5,800.34	14,768.28		6,293.18	
6147 Elem Perm Sub	1	12,752.00	975.53	4,922.76		1,058.42	
6165 Tech Asst	1	15,509.00	1,186.44	4,922.76		1,287.25	
6222 Nurse	1	16,916.00	1,294.07	4,922.76	2,131.42		
6422 Custodians	6	138,262.00	10,577.04	29,536.56		11,475.75	
6911 Elem Title VI-B	1	15,950.00	1,220.18	4,922.76	2,009.70		
	88	**3,048,923.28**	**233,242.63**	**433,202.88**	**330,658.86**	**35,245.67**	**4,081,273.32**

Salaries & benefits	4,081,273.32
Materials & Supplies	109,968.03
Electrical	109,110.51
Fuel	9,842.32
Water	35,642.45
Cap Outlay/Replacement	7,512.48
Cap Outlay/Replacement	3,685.13
Repairs/Contracts	10,654.54
Office Allottment	6,374.30
	4,374,063.08

Attachment B

CULPEPER COUNTY HIGH SCHOOL

	#Employees	Salaries	FICA @7.65%	Health @410.23	VRS-Prof @12.6%	VRS Non-Prof. @8.3%	
6115 Sec Spec Ed	11	449,551.00	34,390.65	54,150.36	56,643.43		
6116 Sec Vocational	16	691,681.00	52,913.60	78,764.16	87,151.81		
6118 Sec Teachers Reg	86	3,431,520.16	262,511.29	423,357.36	432,371.54		
6121 Sec Guidance	4	215,752.00	16,505.03	19,691.04	27,184.75		
6126 Sec Attendance Officer	2	52,345.00	4,004.39	9,845.52	6,595.47		
6134 Elem Inst Asst(Sec aide)	1	12,752.00	975.53	4,922.76		1,058.42	
6135 Sec Teachers Media	2	127,158.00	9,727.59	9,845.52	16,021.91		
6138 Sec Inst Asst/Driver Training	4	47,270.00	3,616.16	19,691.04		3,923.41	
6142 Sec Principal	1	82,250.00	6,292.13	4,922.76	10,363.50		
6143 Security Officers (sec)	8	196,337.00	15,019.78	39,382.08		16,295.97	
6145 Sec Asst Principal	5	336,030.00	25,706.30	24,613.80	42,339.78		
6148 Sec Perm Sub	3	33,968.00	2,598.55	14,768.28		2,819.34	
6165 Tech Asst	1	17,083.00	1,306.85	4,922.76		1,417.89	
6219 Sec - DP Systems Mgr	1	21,060.00	1,611.09	4,922.76	2,653.56		
6222 Nurse	2	58,368.00	4,465.15	9,845.52	7,354.37		
6422 Custodians	8	179,570.00	13,737.11	39,382.08		14,904.31	
6910 Sec Title VI-B	1	36,500.00	2,792.25	4,922.76	4,599.00		
	156	**5,989,195.16**	**458,173.43**	**767,950.56**	**693,279.11**	**40,419.34**	**7,949,017.60**

Salaries & benefits	7,949,017.60
Materials & Supplies	274,367.30
Graduation Expenses	12,853.47
Electrical	173,375.24
Fuel	45,443.25
Water	19,223.42
Cap Outlay/Replacement	48,047.51
Repairs/Contracts	26,905.16
Office Allottment	14,911.56
Stadium Contract	10,000.00
	8,574,144.51

COUNTY OF CULPEPER, VIRGINIA
NEW CAPITAL PROJECTS
EFFECTS TO TAX RATE

$0.01	257,631	
2005	0.89	
2006	0.96	0.07
2007	1.15	0.26
2008	1.24	0.35
2009	1.33	0.44
2010	1.39	0.50
2011	1.43	0.54
2012	1.44	0.55
2013	1.44	0.55
2014	1.45	0.56
2015	1.46	0.57
2016	1.46	0.57
2017	1.47	0.58
2018	1.48	0.59
2019	1.49	0.60
2020	1.49	0.60
2021	1.50	0.61
2022	1.51	0.62
2023	1.52	0.63
2024	1.53	0.64
2025	1.54	0.65
2026	1.51	0.62
2027	1.52	0.63
2028	1.53	0.64
2029	1.53	0.64
2030	1.49	0.60
2031	1.46	0.57
2032	1.37	0.48
2033	1.38	0.49

COUNTY OF CULPEPER, VIRGINIA
NEW CAPITAL PROJECTS
EFFECTS TO TAX RATE

		penny @ 3%	
2005	0.89		257,631
2006	0.95	0.06	265,360
2007	1.14	0.25	273,321
2008	1.21	0.32	281,520
2009	1.29	0.40	289,966
2010	1.32	0.43	298,665
2011	1.34	0.45	307,625
2012	1.34	0.45	316,854
2013	1.33	0.44	326,359
2014	1.32	0.43	336,150
2015	1.31	0.42	346,235
2016	1.30	0.41	356,622
2017	1.30	0.41	367,320
2018	1.29	0.40	378,340
2019	1.28	0.39	389,690
2020	1.28	0.39	401,381
2021	1.27	0.38	413,422
2022	1.26	0.37	425,825
2023	1.26	0.37	438,600
2024	1.25	0.36	451,758
2025	1.25	0.36	465,310
2026	1.22	0.33	479,270
2027	1.22	0.33	493,648
2028	1.21	0.32	508,457
2029	1.20	0.31	523,711
2030	1.17	0.28	539,422
2031	1.16	0.27	555,605
2032	1.11	0.22	572,273
2033	1.11	0.22	589,441

Attachment C

Table 2.1 Real Property Tax, 2004 (continued)

Locality	Tax Rate per $100 of Assessed Value: Basic	Special	Frequency of Assessment	Employs Full Time Assessor	Effective Date of Last Reassessment	Tax Due Date(s)	Prorate Tax
Counties (Note: All counties responded to the survey.)							
Accomack	0.57	Yes[n]	Every year	Yes	1/04	6/5; 12/5	No
Albemarle	0.76	No	Every two years	Yes	1/03	6/5; 12/5	Yes
Alleghany	0.66	No	Every six years	No	1/01	12/5	No
Amelia	0.52	No	Every six years	No	1/00	12/5	No
Amherst	0.61	No	Every six years	No	1/02	6/5; 12/5	Yes
Appomattox	0.66	No	Every six years	Yes	1/02	6/5; 12/5	No
Arlington	0.958	Yes[o]	Every year	Yes	1/04	6/15; 10/5	Yes
Augusta	0.58	No	Every four years	Yes	1/01	6/5; 12/5	Yes
Bath	0.50	No	Every four years	No	1/00	6/5; 12/5	No
Bedford	0.65	No	Every four years	No	1/03	6/5; 12/5	Yes
Bland	0.69	No	Every six years	No	1/02	12/5	No
Botetourt	0.70	No	Every four years	No	1/02	12/5	Yes
Brunswick	0.60	No	Every six years	No	1/00	12/5	No
Buchanan	0.49	No	Every six years	No	1/01	12/5	No
Buckingham	0.58	No	Every 4 to 6 years	No	1/02	6/5; 12/5	Yes
Campbell	0.52	No	Every four years	No	1/03	12/5	Yes
Caroline	0.805	No	Every four years	No	1/02	6/5; 12/5	Yes
Carroll	0.59	No	Every six years	Yes	1/04	12/5	Yes
Charles City	0.82	No	Every four years	No	1/01	6/5; 12/5	No
Charlotte	0.62	No	Every 4 to 6 years	No	1/02	12/5	No
Chesterfield	1.07	No	Every year	Yes	1/03	6/5; 12/5	Yes
Clarke	0.74	No	Every four years	Yes	1/02	6/5; 12/5	Yes
Craig	0.66	No	Every six years	No	1/00	6/5; 12/5	No
Culpeper	0.89	No	Every four years	Yes	1/03	12/5	Yes
Cumberland	0.76	No	Every four years	No	1/02	12/5	Yes
Dickenson	0.60	No	Every six years	No	1/00	6/5; 12/5	No
Dinwiddie	0.77	No	Every four years	No	1/01	6/5,12/5	Yes
Essex	0.70	No	Every six years	No	1/03	6/5; 12/5	No
Fairfax	1.13	Yes[p]	Every year	Yes	1/04	7/28; 12/5	Yes
Fauquier	0.99	No	Every four years	No	1/02	6/5; 12/5	Yes
Floyd	0.64	No	Every four years	No	1/01	6/5; 12/5	Yes
Fluvanna	0.68	No	Every 3 to 4 years	No	1/02	6/5; 12/5	Yes
Franklin	0.53	No	Every four years	No	1/04	12/5	Yes
Frederick	0.73	No	Every four years	Yes	1/01	6/5; 12/5	Yes
Giles	0.72	No	Every four years	No	1/99	6/1; 12/5	No
Gloucester	0.95	Yes[q]	Every four years	Yes	1/02	6/30; 12/5	Yes
Goochland	0.70	Yes[r]	Every four years	Yes	1/01	6/5; 12/5	No
Grayson	0.55	No	Every four years	Yes	1/02	12/5	No
Greene	0.84	No	Every two years	Yes	1/03	6/5; 12/5	No
Greensville	0.59	No	Every six years	No	1/02	12/5	No
Halifax	0.42	No	Every six years	No	1/04	12/5	No
Hanover	0.86	No	Every year	Yes	1/92	6/5; 12/5	Yes
Henrico	0.94	Yes[s]	Every year	Yes	1/04	6/5; 12/5	Yes
Henry	0.54	No	Every four years	Yes	1/01	12/5	No
Highland	0.67	No	Every six years	No	1/00	12/5	Yes

[n] Accomack County levies: District 2: Mosquito Control, $0.04; Fire, $0.05; EMT, $0.05. District 3: Fire, $0.04; EMT, $0.07. District 4: Fire, $0.04; EMT, $0.04. District 5: Fire, $0.04; EMT, $0.04.

[o] Arlington County levies: Rosslyn BID (B) District, $0.049; 2nd Road North (C) District, $0.478; Chain Bridge Rd Sanitation District, $0.087.

[p] Fairfax County levies: Hunter Mill Service Districts 5,5A: $0.052. Dranesville Service Districts 1A,1A1 to 1A9,1A11,1A12,1A16: $0.028. Service Districts 3,4,6,7: $0.028. Sully Service District 5: $0.052. Lee Service District 1A: $0.02. Dranesville Service District 5: $0.052. Ninety-eight sanitary districts for Gypsy Moth control, $0.001. Ninety-eight sanitary districts base rate, $1.16. State Route 28 Transportation Improvement, $0.20; Lake Bancroft Watershed, $0.13. Pest Infestation, $0.001. Thirty sanitary districts for leaf collection, $0.01.

[q] Gloucester County levies: MSQ District for mosquito control, $0.02; Gloucester Sanitary District, $0.02; Gloucester Point Sanitary District, $0.02.

[r] Goochland County levies: James River Sanitary District, $0.18; Tuckahoe Creek Service District, $0.50.

[s] Henrico County levies: Sanitary District 2, $0.007; Sanitary District 23, $0.03; Sanitary District 12, $0.02; Sanitary District 3, $0.02; Sanitary District 3,1: $0.072.

Attachment D

Table 2.1 Real Property Tax, 2004 (continued)

Locality	Tax Rate per $100 of Assessed Value: Basic	Special	Frequency of Assessment	Employs Full Time Assessor	Effective Date of Last Reassessment	Tax Due Date(s)	Prorate Tax
Counties (continued)							
Isle of Wight	0.77	No	Every two years	Yes	7/02	6/5; 12/5	Yes
James City	0.86	No	Every year	Yes	7/03	6/5; 12/5	Yes
King & Queen	0.58	No	Every six years	No	1/02	12/5	No
King George	0.77	No	Every four years	No	1/02	6/5; 12/5	Yes
King William	1.08	No	Every four years	No	1/01	6/5; 12/5	Yes
Lancaster	0.44	No	Every 4 to 6 years	No	1/04	12/5	No
Lee	0.65	No	Every six years	No	1/04	1/5	No
Loudoun	1.11	Yes[t]	Every year	Yes	1/04	6/5; 12/5	Yes
Louisa	0.70	No	Every two years	Yes	1/03	12/5	No
Lunenburg	0.42	No	Every six years	No	1/04	12/5	Yes
Madison	0.76	No	Every 4 to 6 years	No	1/01	12/5	No
Mathews	0.79	No	Every six years	No	1/99	6/5; 12/5	Yes
Mecklenburg	0.87	No	Every six years	Yes	7/04	6/5; 12/5	Yes
Middlesex	0.48	No	Every four years	No	1/00	6/5; 12/5	No
Montgomery	0.67	No	Every four years	Yes	1/03	6/5; 12/5	Yes
Nelson	0.72	No	Every six years	No	1/03	6/5; 12/5	Yes
New Kent	0.76	No	Every 4 to 6 years	No	1/04	12/5	Yes
Northampton	0.65	Yes[u]	Every six years	No	1/04	12/5	No
Northumberland	0.61	No	Every six years	No	1/00	12/5	No
Nottoway	0.54	No	Every six years	No	1/00	12/5	Yes
Orange	0.84	No	Every 4 to 6 years	No	1/03	6/5; 12/5	No
Page	0.67	No	Every 4 to 6 years	No	1/03	6/5; 12/5	No
Patrick	0.50	No	Every six years	No	1/03	12/5	No
Pittsylvania	0.55	No	Every four years	No	1/02	12/5	No
Powhatan	0.95	No	Every four years	No	1/02	6/5; 12/5	Yes
Prince Edward	0.43	No	Every six years	No	1/03	12/5	Yes
Prince George	0.90	No	Every year	Yes	1/04	12/5	Yes
Prince William	1.07	Yes[v]	Every year	Yes	1/04	7/15; 12/5	Yes
Pulaski	0.62	No	Every six years	Yes	1/04	6/5; 12/5	Yes
Rappahannock	0.72	No	Every 4 to 6 years	No	1/03	12/5	No
Richmond	0.54	No	Every six years	No	1/03	12/5	No
Roanoke	1.12	No	Every year	Yes	1/04	6/5; 12/5	Yes
Rockbridge	0.685	No	Every 4 to 6 years	No	1/01	6/5; 12/5	No
Rockingham	0.71	No	Every four years	Yes	1/02	6/5; 12/5	Yes
Russell	0.06	No	Every six years	Yes	1/01	6/11; 12/11	No
Scott	0.73	No	Every six years	No	1/04	12/20	Yes
Shenandoah	0.68	No	Every four years	Yes	1/02	6/5; 12/5	No
Smyth	0.63	No	Every six years	No	1/04	12/5	Yes
Southampton	0.67	No	Every 4 to 6 years	No	1/00	12/5	Yes
Spotsylvania	0.86	No	Every two years	Yes	1/04	6/5; 12/5	Yes
Stafford	0.97	No	Every two years	Yes	1/04	6/5; 12/5	Yes
Surry	0.80	No	Every two years	No	1/03	12/5	Yes
Sussex	0.65	No	Every 4 to 6 years	No	1/00	12/5	Yes
Tazewell	0.60	No	Every six years	No	1/00	12/5	Yes
Warren	0.76	No	Every six years	Yes	1/03	12/5	Yes
Washington	0.60	No	Every four years	No	1/01	12/20	No
Westmoreland	0.66	No	Every six years	No	1/01	12/5	No
Wise	0.57	No	Every six years	Yes	1/03	5/15; 10/15	Yes
Wythe	0.54	No	Every five years	No	1/02	12/5	Yes
York	0.8175	No	Every two years	Yes	1/04	6/5; 12/5	Yes
Tax rates for counties:							
Unweighted mean	0.70						
Median	0.67						
First quartile	0.59						
Third quartile	0.78						

[t] Loudoun County levies: Rt. 28 Transportation District, $0.20; Broad Run Service District, $0.14; Aldie Service District, $0.27; Hamilton District, $0.30.

[u] Northampton County levies: Nassawadox Creek Dredging Project, $0.06.

[v] Prince William County levies: Woodbine Forest District: Gypsy Moth, $0.004; Fire and Rescue, $0.0728. Bull Run Mountain Service District, $0.10. Lake Jackson Sanitary and Service District, $0.11. Prince William Pkwy Transportation District for improvement, $0.20. 234 Bypass Transportation District for improvement, $0.02. Circuit Court Service District, $0.33. Foremost Court Service District, $0.23.

[THIS ATTACHMENT WILL BE REVISED AS STAFF'S MODEL IS REVISED AND RECONCILED WITH OTHER MODELS]

Methodology for Prediction of Student Population

The model developed by Staff, uses current school student numbers and current building permits/certificates of occupancy data from the County Building and Inspections Department to derive a "Pupil per Household" ratio. The school population numbers were numbers provided by the Culpeper County Schools administration.

First, we compared the number of dwellings of all kinds which have been issued a certificate of occupancy and compared that number to the number of new school children reported at the beginning of the school year. Students live only in dwellings for which certificates of occupancy have been issued. Sometimes permitted buildings are never built or their construction is delayed. For example, this year Culpeper Schools reported a gain of 248 students. For the same period, the Building and Inspections Department reported 894 building permits issued but only 632 residential certificates of occupancy issued. Although building permits are important to help construct the model for predicting future building permits, the more accurate data for determining the pupil per household ratio is the certificate of occupancy comparing 248 new students with 632 new homes that are occupied, providing a ratio of (.39) students per new home. [1]

[1] This ratio is based on the total figures provided by the School Division. Staff believes that these total figures include discretionary students, such as preschoolers not mandated by federal or Virginia law. Dropping the discretionary students from the total count could reduce the ratio to .22.

Using the .39 ratio and the historical ratio of Certificate of Occupancies to building permits provides reasonable projections of student population growth over the next five to ten years. Of course this data should be updated each year and population growth estimates revised as appropriate.

Looking at the past four years (which encompassed the greatest County population growth) the annual growth curve peaked at 27%. This high growth rate can not be sustained indefinitely, but should provide a conservative basis for a ten year projection. Using a growth rate of 27%, the estimated 894 building permits for 2004 will increase to 1135 building permits in 2005. Over the last few years, the ratio of certificates of occupancy to permits has been about 70% (in 2004; 632 divided by 894). For 2005, we can reasonably expect, at the most, 802 Certificates of Occupancy. Multiplying 802 by .39 (pupils per household), adds an additional 313 students, probable worst case in 2005.[2]

This methodology produces projection results more consistent with Weldon Cooper Center total school population growth projections through 2008/09, which, consistent with the Staff's data, are substantially below VMDO projections through that same period (through 2008/9 – Staff 6764; Weldon Cooper 6735; VMDO 7605). However, VMDO high school population growth projections, using a .72 pupil to permit ratio plus 2 year mean averaging, are consistent with this methodology as also confirmed by two independent studies by members of the School Oversight Committee, for years through 2011/12 – Staff 2575; SOC member 2479; SOC member 2736; VMDO 2445).

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[2] This analysis, updated each year, can be used to make reasonable worst case projections for future years.